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Applicant(s): **TALWAR ET AL.**

Docket No.: **RLL-1.1US**

Serial No.	Filing Date	Examiner	Group Art Unit
09/347,315	JULY 2, 1999	Todd Ware	1615

Invention:

ORALLY ADMINISTERED CONTROLLED DRUG DELIVERY SYSTEM PROVIDING TEMPORAL AND SPATIAL CONTROL

I hereby certify that this **RESPONSE TO OFFICE ACTION**
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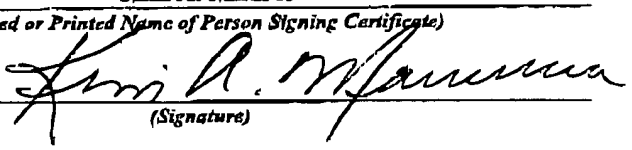
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RLL-1.1US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant: TALWAR *et al.*

Examiner: Todd Ware

Application No.: 09/347,315

Group Art Unit: 1615

Filing Date: July 2, 1999

For: ORALLY ADMINISTERED DRUG DELIVERY SYSTEM PROVIDING TEMPORAL AND SPATIAL CONTROL

RESPONSE TO OFFICE ACTION

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Please consider the following remarks in response to the Office Action of August 29, 2000:

1. Alleged unpatentability of the claims of the present application over Chauhan et al (U.S. Patent No. 5,597,844)

A) No *prima facie* obviousness:

Applicants respectfully disagree with the Examiner's rejection of claims 1-46 supposedly on the ground of being unpatentable over Chauhan et al (U.S. Patent No. 5,597,844; hereinafter '844). To establish a *prima facie* case of obviousness, the Patent and Trademark Office must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan

to modify a reference or to combine references. *In re Fine,* 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Skinner,* 2 USPQ2d 1788 (Bd. Pat. App. 1986). Second, the proposed modification or combination of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen Inc. v. Chugai Pharmaceutical Company,* 18 USPQ2d 1016, 1023 (Fed. Cir. 1991). In this connection, it is important to note that "hindsight is not a justifiable basis on which to find that ultimate achievement of a long sought and difficult scientific goal was obvious", *Id.* Lastly, the prior art reference or combination of references must teach or suggest all the limitations of the claims. *In re Wilson,* 165 USPQ 494, 496 (CCPA 1970). In this connection, all the teachings and suggestions as well as the expectation of success must come from the prior art and not from the applicant's disclosure. *In re Vaeck,* 20 USPQ2d 1438, 1442 (Fed. Cir. 1991)

(i) No motivation to modify the prior reference:

The '844 patent is restricted to granules of cimetidine and not tablets and capsules that are the subject of the claims of the present application. On the other hand, Claim 1 of the present application relates specifically to, "A pharmaceutical composition in the form of tablets or capsules..."

Secondly, the '844 patent reveals that," once the formulation reaches the stomach, the individual particles should release the active ingredient *rapidly* and completely in order to ensure that substantially all of the active ingredient is absorbed.....". (emphasis supplied). The '844 patent deals with granules which, due to their small size and increased surface area dissolve in a relatively shorter time as compared to intact tablets.

The '844 patent is therefore specifically limited to rapid release formulations. The claims of the present application are restricted to extended release formulations only. The Applicants would like to point out that the field of prior art dealing with prolonged release formulations is itself sufficiently crowded. Hence, while developing a prolonged release formulation, one skilled in the art would not even consider the '844 patent since it is prior art that basically addresses rapid release. Hence, there is no motivation to modify the '844 reference.

(ii) No reasonable expectation of success:

The motivation to modify the reference or to combine prior references must come from the prior art and not from applicant's specification. *In re Dow Chemical Company,* 5 USPQ2d, 1529, 1531-1532 (Fed. Cir. 1988).

Since the '844 patent covers granules and specifically restricts itself to a rapid release formulation, it is clear that the claims of the '844 patent teach away from those of the present application. Hence, upon reading the claims of the '844 patent, a person of ordinary skill in the art will certainly not have a reasonable expectation of success in being able to produce an extended release formulation.

(iii) All claim limitations not taught or suggested:

For *prima facie* obviousness of a claimed invention to be established, all the claim limitations must be taught or suggested by the prior art. *In re Royka,* 490 F.2d 981, 180 USPQ 580 (CCPA 1974). If an independent claim is non-obvious under 35 U.S.C. 103,

then any claim depending therefrom is non-obvious. *In re Fine,* 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

From the discussion above, it is abundantly clear that all the claim limitations are neither taught nor suggested by the prior art.

Hence, the requirements of *prima facie* obviousness are not met and Applicants respectfully submit that the claims are unobvious over Chauhan

B) <u>The '844 patent is non-analogous</u>:

For a prior art reference to be analogous, the reference has to be in the field of applicant's endeavor or, if not, the reference at least has to be reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker,* 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992); *In re Deminski,* 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay,* 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) (An analogous reference is one which, "... because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem."); and *Wang Laboratories Inc. v. Toshiba Corp.,* 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993).

The '844 patent confines itself to rapid release formulations while the claims of the present application are directed solely towards extended release formulations. Since the two fields are mutually exclusive of each other, Applicants respectfully submit that the '844 patent is a non-analogous reference.

2. The Examiner has failed to make a *prima facie* case of obviousness while rejecting claims 1-26 and 32-46 as being unpatentable over Kuhrts (U.S. Patent No. 5,292,518 hereinafter '518)

(i) No motivation to modify the reference:

Claim 1 of the present application specifically claims a pharmaceutical composition that provides, " a combination of temporal and *spatial* control..." (emphasis supplied). The background of the application reveals that, "certain drugs are absorbed only from the stomach or the upper parts of the small intestine. Furthermore, an important factor which may adversely affect the performance of an oral controlled drug delivery system is that the dosage form may be rapidly transported from more absorptive upper regions of the intestine to lower regions where the drug is less well absorbed. Therefore, in instances where the drug is not absorbed uniformly over the gastrointestinal tract, the rate of drug absorption may not be constant in spite of the drug delivery system delivering the drug at a constant rate into the gastrointestinal fluids. More particularly, in instances where a drug has a clear cut "absorption window", i.e., the drug is absorbed only from specific regions of the stomach or upper parts of the small intestine, it may not be completely absorbed when administered in the form of a typical oral controlled drug delivery system. It is apparent that for a drug having such an "absorption window," an effective oral controlled drug delivery system should be designed not only to deliver the drug at a controlled rate, but also to retain the drug in the upper parts of the gastrointestinal tract for a long period of time." (emphasis supplied)

The '518 patent shows absolutely no recogniti n of the problem of spatial control and hence does not attempt to solve this problem. On the other hand, spatial control is a critical aspect of the present application and is specifically addressed by the claims. Applicants therefore respectfully submit that there has been no suggestion or motivation to modify the '518 patent to arrive at the present invention.

(ii) No reasonable expectation of success:

It is not sufficient that the prior art could be modified, but it is important and required that the modification or combination be obvious wherein the prior art actually or at least impliedly suggests the desirability of the modification. *In re Laskowski,* 10 USPQ2d 1397, 1399 (Fed. Cir. 1989).

Claim 1 of the present application, *inter alia* requires a 'swelling agent' in the pharmaceutical composition. The application also mentions examples of swelling agents. These examples include cross-linked polyvinylpyrrolidone and other compounds that perform the function of swelling agents. The application terms these swelling agents as 'superdisintegrants'. The more preferred amount of swelling agent in the composition is from about 10% to 20% by weight of the composition. Additionally, the present application reveals the use of not one but two types of disintegrants, namely the swelling agent and the gas generating component.

On the other hand, the background section of the '518 patent reveals that, "normally used tablet disintegrants or additives such as polyvinylpyrrolidone (crosslinking agent), sodium carboxymethyl-starch, cornstarch, microcrystalline cellulose, and so on, do not lead to satisfactory results. Hard tablets are produced which

do not swell properly, and which form an impenetrable layer of gel around a powder core which may pass through the gastrointestinal tract undissolved." (emphasis supplied). Hence, the '518 patent expressly rejects the use of polyvinylpyrrolidone and therefore, also leads away from the claims of the present application.

Hence, though the '518 patent mentions polyvinylpyrrolidone, the Applicants respectfully submit that the '518 patent does not render the claims of the present application as *prima facie* obvious since there is no reasonable expectation of success if polyvinylpyrrolidone is used.

(iii) All claim limitations not taught or suggested:

From the discussion above, it is abundantly clear that all the claim limitations are not taught or suggested by the prior art.

Hence, the Applicants respectfully submit that the Examiner has erred in his finding *prima facie* obviousness in the claims of the present application over the prior art '518 patent.

3. The Examiner has failed to make a *prima facie* case of obviousness while rejecting claims 1-46 as being unpatentable over Kuhrts (U.S. Patent No. 5,292,518, hereinafter '518) and Chauhan et al (U.S. Patent No. 5,597,844; hereinafter '844)

(i) No motivation to combine the prior references:

As explained above, it is submitted that the '844 patent is a non-analogous reference. Hence, a question of combining the prior references, namely the '844 reference

with the '518 reference, does not arise. For this reason alone, the combination is improper and *prima facie* obviousness is not made out.

In addition, combining a rapid release teaching such as Chauhan with an extended release prior art such as Kuhrts destroys the intended function of both and is therefore improper. Therefore, there is a huge disincentive to combine these two references. For this reason also, *prima facie* obviousness is not made out.

(ii) No reasonable expectation of success:

The '844 patent as well as the '518 patent both lead away from the claims of the present application. Hence, even when assuming whilst denying that the '844 patent is analogous to the claims of the present application, a person ordinarily skilled in the art will certainly not expect to achieve the results expected from the claims of the present application by looking at the combination of both these prior art references.

(iii) All claim limitations not taught or suggested:

Similarly, assuming that the '844 patent is analogous to the present application, all claim limitations of the present application are not taught or suggested by the combination of the '844 and '518 patents.

4) Rejection of the present claims over Conte *et al* in Application Serial Number 09/152,932:

The Applicants also wish to point out that the Examiner had rejected the present claims over Conte *et al* in Application Serial Number 09/152,932. He had held some

claims as anticipated by Conte and all as obvious over Conte Since the Examiner has not presently rejected the claims over Conte, it is apparent that our earlier arguments regarding the patentability of claims 47-49,51,52,54-56 and 58-60 in Application Serial Number 09/152,932 have convinced the Examiner that the claims of the present application are patentable over Conte. We request the Examiner to confirm our understanding of the situation.

Respectfully submitted,

TALWAR *et al.*

By: _____

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